

DAY - 06

PROMETHEUS AND GRAFANA

PROMETHEUS

Prometheus is an open-source system monitoring and alerting toolkit originally built at SoundCloud. It is now a standalone open source project . Prometheus joined the Cloud Native Computing Foundation in 2016 as the second hosted project, after Kubernetes.

FEATURES

- a multi-dimensional data model with time series data identified by metric name and key/value pairs
- PromQL, a flexible query language to leverage this dimensionality
- no reliance on distributed storage; single server nodes are autonomous
- time series collection happens via a pull model over HTTP
- pushing time series is supported via an intermediary gateway
- targets are discovered via service discovery or static configuration
- multiple modes of graphing and dashboarding support

INSTALLATION COMMANDS

```
sudo useradd \  
--system \  
--no-create-home \  
--shell /bin/false Prometheus
```

wget <https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2.47.1.linux-amd64.tar.gz>

```
tar -xvf prometheus-2.47.1.linux-amd64.tar.gz
```

```
sudo mkdir -p /data /etc/prometheus
```

```
cd prometheus-2.47.1.linux-amd64/
```

```
sudo mv prometheus promtool /usr/local/bin/
```

```
sudo mv consoles/ console_libraries/ /etc/prometheus/  
sudo mv prometheus.yml /etc/prometheus/prometheus.yml  
sudo chown -R prometheus:prometheus /etc/prometheus/ /data/  
cd  
rm -rf prometheus-2.47.1.linux-amd64.tar.gz  
prometheus --version  
sudo vim /etc/systemd/system/prometheus.service
```

prometheus.service

[Unit]

Description=Prometheus

Wants=network-online.target

After=network-online.target

StartLimitIntervalSec=500

StartLimitBurst=5

[Service]

User=prometheus

Group=prometheus

Type=simple

Restart=on-failure

RestartSec=5s

ExecStart=/usr/local/bin/prometheus \

--config.file=/etc/prometheus/prometheus.yml \

--storage.tsdb.path=/data \

--web.console.templates=/etc/prometheus/consoles \

--web.console.libraries=/etc/prometheus/console_libraries \

--web.listen-address=0.0.0.0:9090 \

--web.enable-lifecycle

[Install]

WantedBy=multi-user.target

sudo systemctl enable prometheus

sudo systemctl start prometheus

sudo systemctl status prometheus

journalctl -u prometheus -f --no-pager

promtool check config /etc/prometheus/prometheus.yml

EXECUTION OF COMMANDS

```
Select akshitha@ITP-CC16-19: ~
Handling connection for 7878
Handling connection for 7878
^C
akshitha@ITP-CC16-19:~$ ^C
akshitha@ITP-CC16-19:~$ sudo useradd \
> --system \
> --no-create-home \
> --shell /bin/false prometheus
[sudo] password for akshitha:
akshitha@ITP-CC16-19:~$ ls
jenkinsFile.save deployment.yml deployment.yml docker-compose.yaml pod.yml replicaset.yml simple-web-app
akshitha@ITP-CC16-19:~$ wget https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2.47.1.linux-amd64.tar.gz
--2025-03-22 06:26:52-- https://github.com/prometheus/prometheus/releases/download/v2.47.1/prometheus-2.47.1.linux-amd64.tar.gz
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/6838921/2f9b7b37-63a0-428b-adb5-0294482fd743?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetpro
duction%2F20250322%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250322T062830Z&X-Amz-Expires=300&X-Amz-Signature=6e9fe1104149cf4f4f143fa8f736bda89913e28008b2bbc73deb3a64ed5db610&X-Amz-SignedHeaders=
host&response-content-disposition=attachment%3B%20filename%3Dprometheus-2.47.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream [following]
--2025-03-22 06:26:53-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/6838921/2f9b7b37-63a0-428b-adb5-0294482fd743?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=
releaseassetproduction%2F20250322%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250322T062830Z&X-Amz-Expires=300&X-Amz-Signature=6e9fe1104149cf4f4f143fa8f736bda89913e28008b2bbc73deb3a64ed5db610&X-Am
z-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dprometheus-2.47.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.109.133, 185.199.110.133, 185.199.111.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.109.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 95713066 (91M) [application/octet-stream]
Saving to: 'prometheus-2.47.1.linux-amd64.tar.gz'

prometheus-2.47.1.linux-amd64.tar.gz 100%[=====] 91.28M 3.13MB/s in 27s

2025-03-22 06:27:21 (3.36 MB/s) - 'prometheus-2.47.1.linux-amd64.tar.gz' saved [95713066/95713066]

akshitha@ITP-CC16-19:~$ tar -xvf prometheus-2.47.1.linux-amd64.tar.gz
prometheus-2.47.1.linux-amd64/
prometheus-2.47.1.linux-amd64/LICENSE
prometheus-2.47.1.linux-amd64/NOTICE
prometheus-2.47.1.linux-amd64/prometheus.yml
prometheus-2.47.1.linux-amd64/consoles/
prometheus-2.47.1.linux-amd64/consoles/prometheus.html
prometheus-2.47.1.linux-amd64/consoles/prometheus-overview.html
prometheus-2.47.1.linux-amd64/consoles/node-cpu.html
prometheus-2.47.1.linux-amd64/consoles/index.html.example
prometheus-2.47.1.linux-amd64/consoles/node.html
prometheus-2.47.1.linux-amd64/consoles/node-disk.html
prometheus-2.47.1.linux-amd64/consoles/node-overview.html
prometheus-2.47.1.linux-amd64/promtool
prometheus-2.47.1.linux-amd64/console_libraries/
prometheus-2.47.1.linux-amd64/console_libraries/prom.lib
prometheus-2.47.1.linux-amd64/console_libraries/menu.lib
prometheus-2.47.1.linux-amd64/prometheus
akshitha@ITP-CC16-19:~$ sudo mkdir -p /data /etc/prometheus
akshitha@ITP-CC16-19:~$ cd prometheus-2.47.1.linux-amd64/
```

```
akshitha@ITP-CC16-19: ~
prometheus-2.47.1.linux-amd64/consoles/
prometheus-2.47.1.linux-amd64/consoles/prometheus.html
prometheus-2.47.1.linux-amd64/consoles/prometheus-overview.html
prometheus-2.47.1.linux-amd64/consoles/node-cpu.html
prometheus-2.47.1.linux-amd64/consoles/index.html.example
prometheus-2.47.1.linux-amd64/consoles/node.html
prometheus-2.47.1.linux-amd64/consoles/node-disk.html
prometheus-2.47.1.linux-amd64/consoles/node-overview.html
prometheus-2.47.1.linux-amd64/promtool
prometheus-2.47.1.linux-amd64/console_libraries/
prometheus-2.47.1.linux-amd64/console_libraries/prom.lib
prometheus-2.47.1.linux-amd64/console_libraries/menu.lib
prometheus-2.47.1.linux-amd64/prometheus
akshitha@ITP-CC16-19:~$ sudo mkdir -p /data /etc/prometheus
akshitha@ITP-CC16-19:~$ cd prometheus-2.47.1.linux-amd64/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv prometheus promtool /usr/local/bin/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv consoles/ console_libraries/ /etc/prometheus/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv prometheus.yml /etc/prometheus/prometheus.yml
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo chown -R prometheus:prometheus /etc/prometheus/ /data/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ cd
akshitha@ITP-CC16-19:~$ cd prometheus-2.47.1.linux-amd64/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ cd
akshitha@ITP-CC16-19:~$ rm -rf prometheus-2.47.1.linux-amd64.tar.gz
prometheus --version
akshitha@ITP-CC16-19:~$ prometheus --version
prometheus, version 2.47.1 (branch: HEAD, revision: c4d1a8beff37cc004f1dc4ab9d2e73193f51aaeb)
  build user: root@4829330363be
  build date: 20231004-10:31:16
  go version: go1.21.1
  platform: linux/amd64
  tags: netgo,builtinassets,stringlabels
akshitha@ITP-CC16-19:~$ ls
jenkinsfile.save deployment.yml deployment.yml docker-compose.yaml pod.yml prometheus-2.47.1.linux-amd64 replicaset.yml simple-web-app
akshitha@ITP-CC16-19:~$
```

```
akshitha@ITP-CC16-19: ~
prometheus-2.47.1.linux-amd64/consoles/node-cpu.html
prometheus-2.47.1.linux-amd64/consoles/index.html.example
prometheus-2.47.1.linux-amd64/consoles/node.html
prometheus-2.47.1.linux-amd64/consoles/node-disk.html
prometheus-2.47.1.linux-amd64/consoles/node-overview.html
prometheus-2.47.1.linux-amd64/promtool
prometheus-2.47.1.linux-amd64/console_libraries/
prometheus-2.47.1.linux-amd64/console_libraries/prom.lib
prometheus-2.47.1.linux-amd64/console_libraries/menu.lib
prometheus-2.47.1.linux-amd64/prometheus
akshitha@ITP-CC16-19:~$ sudo mkdir -p /data /etc/prometheus
akshitha@ITP-CC16-19:~$ cd prometheus-2.47.1.linux-amd64/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv prometheus promtool /usr/local/bin/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv consoles/ console_libraries/ /etc/prometheus/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo mv prometheus.yml /etc/prometheus/prometheus.yml
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ sudo chown -R prometheus:prometheus /etc/prometheus/ /data/
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ cd
akshitha@ITP-CC16-19:~/prometheus-2.47.1.linux-amd64$ cd
akshitha@ITP-CC16-19:~$ rm -rf prometheus-2.47.1.linux-amd64.tar.gz
prometheus --version
akshitha@ITP-CC16-19:~$ prometheus --version
prometheus, version 2.47.1 (branch: HEAD, revision: c4d1a8beff37cc004f1dc4ab9d2e73193f51aaeb)
  build user: root@4829330363be
  build date: 20231004-10:31:16
  go version: go1.21.1
  platform: linux/amd64
  tags: netgo,builtinassets,stringlabels
akshitha@ITP-CC16-19:~$ ls
jenkinsfile.save deployment.yml deployment.yml docker-compose.yaml pod.yml prometheus-2.47.1.linux-amd64 replicaset.yml simple-web-app
akshitha@ITP-CC16-19:~$ sudo vim /etc/systemd/system/prometheus.service
akshitha@ITP-CC16-19:~$ sudo systemctl enable prometheus
Created symlink /etc/systemd/system/multi-user.target.wants/prometheus.service → /etc/systemd/system/prometheus.service.
akshitha@ITP-CC16-19:~$ sudo systemctl start prometheus
akshitha@ITP-CC16-19:~$ sudo systemctl status prometheus
● prometheus.service
   Loaded: loaded (/etc/systemd/system/prometheus.service; enabled; preset: enabled)
   Active: active (running) since Sat 2025-03-22 06:37:27 UTC; 25s ago
     Main PID: 16851 (prometheus)
        Tasks: 16 (limit: 4572)
       Memory: 23.7M
      CGroup: /system.slice/prometheus.service
              └─16851 /usr/local/bin/prometheus --config.file=/etc/prometheus/prometheus.yml --storage.tsdb.path=/data --web.console.templates=/etc/prometheus/consoles --web.console.libraries=/etc/

Mar 22 06:37:27 ITP-CC16-19 prometheus[16851]: ts-2025-03-22T06:37:27.136Z caller=main.go:1229 level=info msg="Loading configuration file" filename=/etc/prometheus/prometheus.yml
Mar 22 06:37:27 ITP-CC16-19 prometheus[16851]: ts-2025-03-22T06:37:27.136Z caller=main.go:1266 level=info msg="Completed loading of configuration file" filename=/etc/prometheus/prometheus.yml total
Mar 22 06:37:27 ITP-CC16-19 prometheus[16851]: ts-2025-03-22T06:37:27.136Z caller=main.go:1009 level=info msg="Server is ready to receive web requests."
Mar 22 06:37:27 ITP-CC16-19 prometheus[16851]: ts-2025-03-22T06:37:27.136Z caller=manager.go:1009 level=info component="rule manager" msg="Starting rule manager..."
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:1: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:2: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:3: Assignment outside of section. Ignoring.
```

```
Select akshitha@ITP-CC16-19: ~
Mar 22 06:37:27 ITP-CC16-19 prometheus[16851]: ts=2025-03-22T06:37:27.1362 caller=manager.go:1809 level=info components="rule manager" msg="Starting rule manager..."
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:1: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:2: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:3: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:4: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:5: Assignment outside of section. Ignoring.
Mar 22 06:37:52 ITP-CC16-19 systemd[1]: /etc/systemd/system/prometheus.service:6: Assignment outside of section. Ignoring.
^C
akshitha@ITP-CC16-19:~$ sudo useradd \
> --system \
> --no-create-home \
> --shell /bin/false node_exporter
akshitha@ITP-CC16-19:~$ wget https://github.com/prometheus/node_exporter/releases/download/v1.6.1/node_exporter-1.6.1.linux-amd64.tar.gz
--2025-03-22 06:39:06-- https://github.com/prometheus/node_exporter/releases/download/v1.6.1/node_exporter-1.6.1.linux-amd64.tar.gz
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/9524057/5509b569-5c34-471e-8598-c05c0733bb7f?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetprod-2025-03-22T06:39:06Z-us-east-1%3F%3Faws4_request&X-Amz-Date=20250322T064222Z&X-Amz-Expires=3600&X-Amz-Signature=3b4d3bdf17ed708de29fa854ccb390bb07a381b3b04f05abb2fb104db2b088168X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dnode_exporter-1.6.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream [following]
--2025-03-22 06:39:06-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/9524057/5509b569-5c34-471e-8598-c05c0733bb7f?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetprod-2025-03-22T06:39:06Z-us-east-1%3F%3Faws4_request&X-Amz-Date=20250322T064222Z&X-Amz-Expires=3600&X-Amz-Signature=3b4d3bdf17ed708de29fa854ccb390bb07a381b3b04f05abb2fb104db2b088168X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dnode_exporter-1.6.1.linux-amd64.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.111.133, 185.199.110.133, 185.199.108.133, 185.199.108.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.111.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 10368103 (9.9M) [application/octet-stream]
Saving to: 'node_exporter-1.6.1.linux-amd64.tar.gz'

node_exporter-1.6.1.linux-amd64.tar.gz 100%[----->] 9.89M 1.18MB/s in 4.8s

2025-03-22 06:39:12 (2.08 MB/s) - 'node_exporter-1.6.1.linux-amd64.tar.gz' saved [10368103/10368103]

akshitha@ITP-CC16-19:~$ tar -xvf node_exporter-1.6.1.linux-amd64.tar.gz
node_exporter-1.6.1.linux-amd64/
node_exporter-1.6.1.linux-amd64/NOTICE
node_exporter-1.6.1.linux-amd64/node_exporter
node_exporter-1.6.1.linux-amd64/LICENSE
akshitha@ITP-CC16-19:~$ udo mv \
> node_exporter-1.6.1.linux-amd64/node_exporter \
> /usr/local/bin/
$ command 'udo' not found, but can be installed with:
sudo apt install udo
akshitha@ITP-CC16-19:~$ sudo mv \
> node_exporter-1.6.1.linux-amd64/node_exporter \
> /usr/local/bin/
akshitha@ITP-CC16-19:~$ rm -rf node_exporter*
akshitha@ITP-CC16-19:~$ node_exporter --version
node_exporter, version 1.6.1 (branch: HEAD, revision: 4a1b7600c1873a8233f3ffb55afcedbb63b8d84)
build user: root@586879db1e5
```

```
Select akshitha@ITP-CC16-19: ~
akshitha@ITP-CC16-19:~$ node_exporter --version
node_exporter, version 1.6.1 (branch: HEAD, revision: 4a1b7600c1873a8233f3ffb55afcedbb63b8d84)
build user: root@586879db1e5
build date: 20230717-12:10:52
go version: go1.20.6
platform: linux/amd64
tags: netgo osusergo static_build
akshitha@ITP-CC16-19:~$ sudo vim /etc/systemd/system/node_exporter.service
akshitha@ITP-CC16-19:~$ sudo systemctl enable node_exporter
s systemctl start node_exporter
s systemctl status nsudo systemctl start node_exporter
sudo systemctl status node_exporter
journalctl -u node_exporter -f --no-pagerCreated symlink /etc/systemd/system/multi-user.target.wants/node_exporter.service → /etc/systemd/system/node_exporter.service.
akshitha@ITP-CC16-19:~$ sudo systemctl enable node_exporter
akshitha@ITP-CC16-19:~$ sudo systemctl start node_exporter
akshitha@ITP-CC16-19:~$ sudo systemctl status node_exporter
* node_exporter.service
Loaded: loaded (/etc/systemd/system/node_exporter.service; enabled; preset: enabled)
Active: active (running) since Sat 2025-03-22 06:42:24 UTC; 9s ago
Main PID: 18072 (node_exporter)
Tasks: 5 (limit: 4572)
Memory: 3.6M ()
CGroup: /system.slice/node_exporter.service
└─18072 /usr/local/bin/node_exporter --collector.logind

Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.527Z caller=node_exporter.go:117 level=info collector=xfs
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=node_exporter.go:117 level=info collector=zfs
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=tls_config.go:274 level=info msg="Listening on" address=[::]:9100
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=tls_config.go:277 level=info msg="TLS is disabled." http2=false address=[::]:9100
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:1: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:2: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:3: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:4: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:5: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:6: Assignment outside of section. Ignoring.
akshitha@ITP-CC16-19:~$ journalctl -u node_exporter -f --no-pager
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.527Z caller=node_exporter.go:117 level=info collector=xfs
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=node_exporter.go:117 level=info collector=zfs
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=tls_config.go:274 level=info msg="Listening on" address=[::]:9100
Mar 22 06:42:24 ITP-CC16-19 node_exporter[18072]: ts=2025-03-22T06:42:24.528Z caller=tls_config.go:277 level=info msg="TLS is disabled." http2=false address=[::]:9100
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:1: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:2: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:3: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:4: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:5: Assignment outside of section. Ignoring.
Mar 22 06:42:34 ITP-CC16-19 systemd[1]: /etc/systemd/system/node_exporter.service:6: Assignment outside of section. Ignoring.
^C
akshitha@ITP-CC16-19:~$ sudo vim /etc/prometheus/prometheus.yml
akshitha@ITP-CC16-19:~$ sudo vim /etc/prometheus/prometheus.yml
akshitha@ITP-CC16-19:~$ promtool check config /etc/prometheus/prometheus.yml
Checking /etc/prometheus/prometheus.yml
```


GRAFANA

COMMANDS

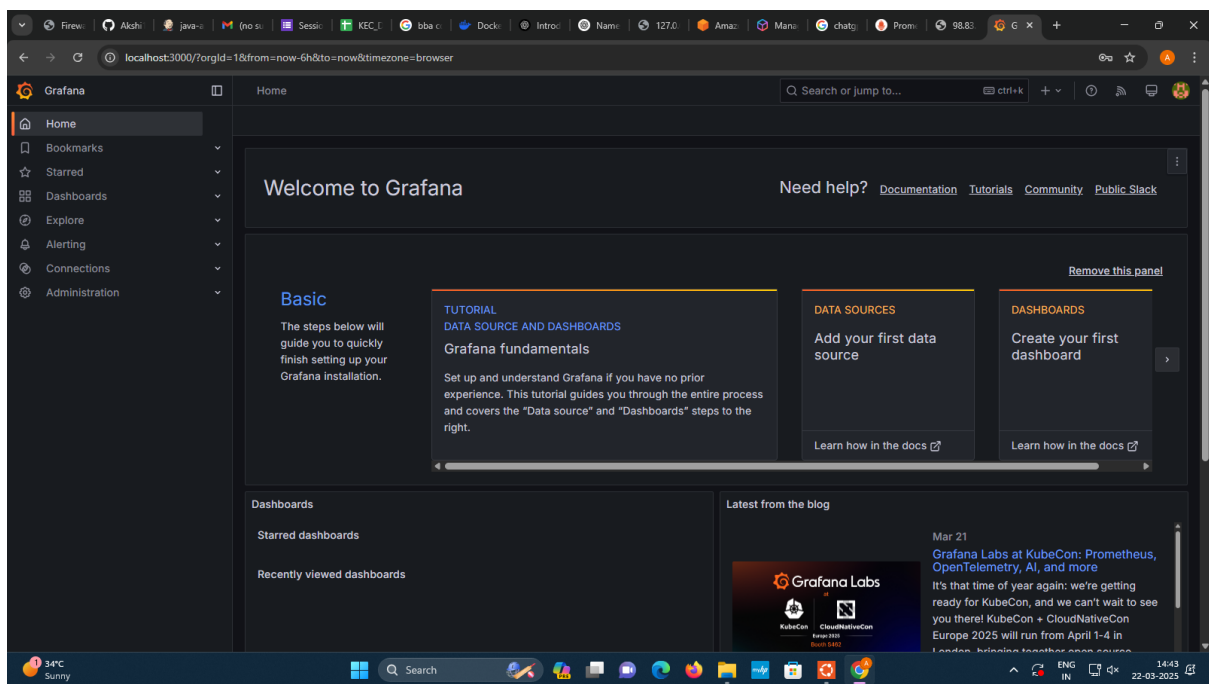
```
akshitha@ITP-CC16-19:~$  
Reading state information... Done  
software-properties-common is already the newest version (0.99.49.1).  
software-properties-common set to manually installed.  
The following NEW packages will be installed:  
  apt-transports-https  
0 upgraded, 1 newly installed, 0 to remove and 28 not upgraded.  
Need to get 3974 B of archives.  
After this operation, 35.8 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu noble/universe amd64 apt-transports-https all 2.7.14build2 [3974 B]  
Fetched 3974 B in 1s (7241 B/s)  
Selecting previously unselected package apt-transports-https.  
(Reading database ... 46950 files and directories currently installed.)  
Preparing to unpack .../apt-transports-https-2.7.14build2_all.deb ...  
Unpacking apt-transports-https (2.7.14build2) ...  
Setting up apt-transports-https (2.7.14build2) ...  
akshitha@ITP-CC16-19:~$ sudo systemctl enable grafana-server  
Failed to enable unit: Unit file grafana-server.service does not exist.  
akshitha@ITP-CC16-19:~$ sudo apt-get install -y apt-transports-https software-properties-common  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
apt-transports-https is already the newest version (2.7.14build2).  
software-properties-common is already the newest version (0.99.49.1).  
0 upgraded, 0 newly installed, 0 to remove and 28 not upgraded.  
akshitha@ITP-CC16-19:~$ wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add -  
deb https://packages.grafana.com/oss/deb/stable/main" | sudo tee -a /etc/apt/sources.list.d/grafana.list  
Warning: apt-key is deprecated. Manage keyring files in trusted.gpg.d instead (see apt-key(8)).  
OK  
akshitha@ITP-CC16-19:~$ echo "deb https://packages.grafana.com/oss/deb/stable/main" | sudo tee -a /etc/apt/sources.list.d/grafana.list  
deb https://packages.grafana.com/oss/deb/stable/main  
akshitha@ITP-CC16-19:~$ sudo apt-get update  
Get:1 https://packages.grafana.com/oss/deb/stable InRelease [7661 B]  
Ign:2 https://pkg.jenkins.io/debian-stable binary/ InRelease  
Get:3 https://packages.grafana.com/oss/deb/stable/main amd64 Packages [369 kB]  
Hit:4 https://pkg.jenkins.io/debian-stable binary/ Release  
Get:5 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]  
Hit:6 http://archive.ubuntu.com/ubuntu noble InRelease  
Get:7 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]  
Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [9024 B]  
Get:9 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [51.9 kB]  
Get:10 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [288 B]  
Get:11 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [288 B]  
Get:12 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]  
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [922 kB]  
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]  
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [364 kB]  
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]  
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Packages [39.1 kB]  
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/main Translation-en [8076 B]  
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7076 B]  
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [272 B]  
Get:21 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [26.4 kB]  
Get:22 http://archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [16.3 kB]  
Get:23 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [21.3 kB]  
Get:24 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1304 B]  
Get:25 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]  
Get:26 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]  
Fetched 2375 kB in 3s (845 kB/s)  
Reading package lists... Done  
M: https://packages.grafana.com/oss/deb/dists/stable/InRelease: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION section in apt-key(8) for details.  
akshitha@ITP-CC16-19:~$ sudo apt-get -y install grafana  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  musl  
The following NEW packages will be installed:  
  grafana musl  
0 upgraded, 2 newly installed, 0 to remove and 28 not upgraded.  
Need to get 139 MB of archives.  
After this operation, 533 MB of additional disk space will be used.  
Get:1 https://packages.grafana.com/oss/deb/stable/main amd64 grafana amd64 11.5.2 [139 MB]  
Get:2 http://archive.ubuntu.com/ubuntu noble/universe amd64 musl 1.2.4-2 [416 kB]  
Fetched 139 MB in 30s (4666 kB/s)  
Selecting previously unselected package musl:amd64.  
(Reading database ... 46954 files and directories currently installed.)  
Preparing to unpack .../musl-1.2.4-2_amd64.deb ...  
Unpacking musl:amd64 (1.2.4-2) ...  
Selecting previously unselected package grafana.  
Preparing to unpack .../grafana-11.5.2_amd64.deb ...  
Unpacking grafana (11.5.2) ...  
Setting up musl:amd64 (1.2.4-2) ...  
Setting up grafana (11.5.2) ...  
info: Selecting UID from range 100 to 999 ...  
  
info: Adding system user 'grafana' (UID 107) ...  
info: Adding new user 'grafana' (UID 107) with group 'grafana' ...  
info: Not creating home directory '/usr/share/grafana'.  
## NOT starting on installation, please execute the following statements to configure grafana to start automatically using systemd  
sudo /bin/systemctl daemon-reload  
sudo /bin/systemctl enable grafana-server  
## You can start grafana-server by executing  
sudo /bin/systemctl start grafana-server  
Processing triggers for man-db (2.12.0-4build2) ...  
akshitha@ITP-CC16-19:~$ sudo systemctl enable grafana-server
```

```
akshitha@ITP-CC16-19:~$  
Get:16 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [364 kB]  
Get:17 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]  
Get:18 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]  
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Packages [39.1 kB]  
Get:20 http://archive.ubuntu.com/ubuntu noble-backports/main Translation-en [8076 B]  
Get:21 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [7076 B]  
Get:22 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 c-n-f Metadata [272 B]  
Get:23 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Packages [26.4 kB]  
Get:24 http://archive.ubuntu.com/ubuntu noble-backports/universe Translation-en [16.3 kB]  
Get:25 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [21.3 kB]  
Get:26 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 c-n-f Metadata [1304 B]  
Get:27 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 B]  
Get:28 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]  
Fetched 2375 kB in 3s (845 kB/s)  
Reading package lists... Done  
M: https://packages.grafana.com/oss/deb/dists/stable/InRelease: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION section in apt-key(8) for details.  
akshitha@ITP-CC16-19:~$ sudo apt-get -y install grafana  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  musl  
The following NEW packages will be installed:  
  grafana musl  
0 upgraded, 2 newly installed, 0 to remove and 28 not upgraded.  
Need to get 139 MB of archives.  
After this operation, 533 MB of additional disk space will be used.  
Get:1 https://packages.grafana.com/oss/deb/stable/main amd64 grafana amd64 11.5.2 [139 MB]  
Get:2 http://archive.ubuntu.com/ubuntu noble/universe amd64 musl 1.2.4-2 [416 kB]  
Fetched 139 MB in 30s (4666 kB/s)  
Selecting previously unselected package musl:amd64.  
(Reading database ... 46954 files and directories currently installed.)  
Preparing to unpack .../musl-1.2.4-2_amd64.deb ...  
Unpacking musl:amd64 (1.2.4-2) ...  
Selecting previously unselected package grafana.  
Preparing to unpack .../grafana-11.5.2_amd64.deb ...  
Unpacking grafana (11.5.2) ...  
Setting up musl:amd64 (1.2.4-2) ...  
Setting up grafana (11.5.2) ...  
info: Selecting UID from range 100 to 999 ...  
  
info: Adding system user 'grafana' (UID 107) ...  
info: Adding new user 'grafana' (UID 107) with group 'grafana' ...  
info: Not creating home directory '/usr/share/grafana'.  
## NOT starting on installation, please execute the following statements to configure grafana to start automatically using systemd  
sudo /bin/systemctl daemon-reload  
sudo /bin/systemctl enable grafana-server  
## You can start grafana-server by executing  
sudo /bin/systemctl start grafana-server  
Processing triggers for man-db (2.12.0-4build2) ...  
akshitha@ITP-CC16-19:~$ sudo systemctl enable grafana-server
```

```
akshiha@ITP-CC16-19:~$ sudo apt-get install grafana
Selecting previously unselected package musl:amd64.
(Reading database ... 46954 files and directories currently installed.)
Preparing to unpack .../musl1.2.4-2_amd64.deb ...
Unpacking musl:amd64 (1.2.4-2) ...
Selecting previously unselected package grafana.
Preparing to unpack .../grafana_11.5.2_amd64.deb ...
Unpacking grafana (11.5.2) ...
Setting up musl:amd64 (1.2.4-2) ...
Setting up grafana (11.5.2) ...
Info: Selecting UID from range 100 to 999 ...

Info: Adding system user `grafana' (UID 107) ...
Info: Adding new user `grafana' (UID 107) with group `grafana' ...
Info: Not creating home directory `/usr/share/grafana'
## NOT starting on installation, please execute the following statements to configure grafana to start automatically using systemd
sudo /bin/systemctl daemon-reload
sudo /bin/systemctl enable grafana-server
## You can start grafana-server by executing
sudo /bin/systemctl start grafana-server
Processing triggers for man-db (2.12.0-4build2) ...
akshiha@ITP-CC16-19:~$ sudo systemctl enable grafana-server
Synchronizing state of grafana-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable grafana-server
Created symlink /etc/systemd/system/multi-user.target.wants/grafana-server.service → /usr/lib/systemd/system/grafana-server.service.
akshiha@ITP-CC16-19:~$ sudo systemctl start grafana-server
* grafana-server.service - Grafana instance
   Loaded: loaded (/usr/lib/systemd/system/grafana-server.service; enabled; preset: enabled)
   Active: active (running) since Sat 2025-03-22 09:06:36 UTC; 6s ago
     Docs: http://docs.grafana.org
    Main PID: 48916 (grafana)
      Tasks: 22 (limit: 4572)
     Memory: 225.3M ()
    CGroup: /system.slice/grafana-server.service
            └─48916 /usr/share/grafana/bin/grafana server --config=/etc/grafana/grafana.ini --pidfile=/run/grafana/grafana-server.pid --packaging=deb cfg:default.paths.logs=/var/log/grafana cfg:

Mar 22 09:06:39 ITP-CC16-19 grafana[48916]: logger-plugins.update.checker t=2025-03-22T09:06:39.992942141Z level=info msg="Update check succeeded" duration=357.925134ms
Mar 22 09:06:39 ITP-CC16-19 grafana[48916]: logger-grafana-apiserver t=2025-03-22T09:06:39.994899357Z level=info msg="Adding GroupVersion ian.grafana.app v0alpha1 to ResourceMan"
Mar 22 09:06:39 ITP-CC16-19 grafana[48916]: logger-grafana-apiserver t=2025-03-22T09:06:39.995974169Z level=info msg="Adding GroupVersion notifications.alerting.grafana.app v0alpha1 to ResourceMan"
Mar 22 09:06:40 ITP-CC16-19 grafana[48916]: logger-app-registry t=2025-03-22T09:06:40.026643831Z level=info msg="app registry initialized"
Mar 22 09:06:40 ITP-CC16-19 grafana[48916]: logger-plugin.angular detectorsprovider.dynamic t=2025-03-22T09:06:40.02890439Z level=info msg="Patterns update finished" duration=317.886147ms
Mar 22 09:06:42 ITP-CC16-19 grafana[48916]: logger-plugin.installer t=2025-03-22T09:06:42.219279111Z level=info msg="Installing plugin" pluginId=grafana-lokiexplore-app version=
Mar 22 09:06:42 ITP-CC16-19 grafana[48916]: logger-installer.fs t=2025-03-22T09:06:42.220366444Z level=info msg="Downloaded and extracted grafana-lokiexplore-app v1.0.9 zip successfully to /var/lib"
Mar 22 09:06:42 ITP-CC16-19 grafana[48916]: logger-plugins.registration t=2025-03-22T09:06:42.338135083Z level=info msg="Plugin registered" pluginId=grafana-lokiexplore-app
Mar 22 09:06:42 ITP-CC16-19 grafana[48916]: logger-plugin.backgroundinstaller t=2025-03-22T09:06:42.338171645Z level=info msg="Plugin successfully installed" pluginId=grafana-lokiexplore-app version=
Mar 22 09:06:42 ITP-CC16-19 grafana[48916]: logger-plugin.backgroundinstaller t=2025-03-22T09:06:42.338189352Z level=info msg="Installing plugin" pluginId=grafana-pyroscope-app version=
akshiha@ITP-CC16-19:~$
```



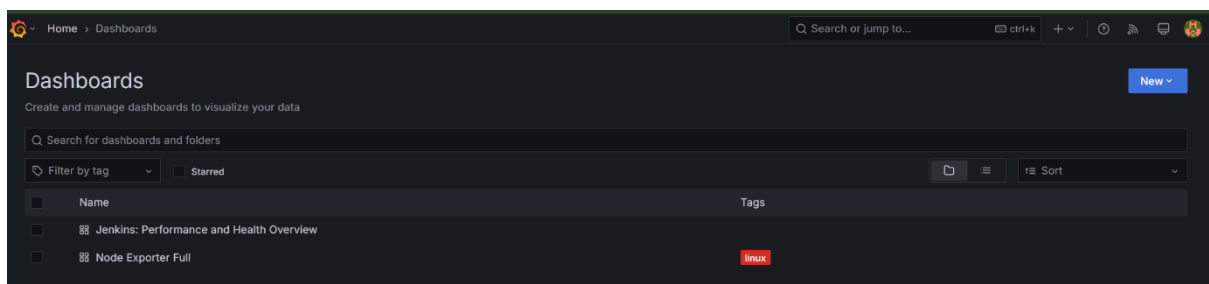
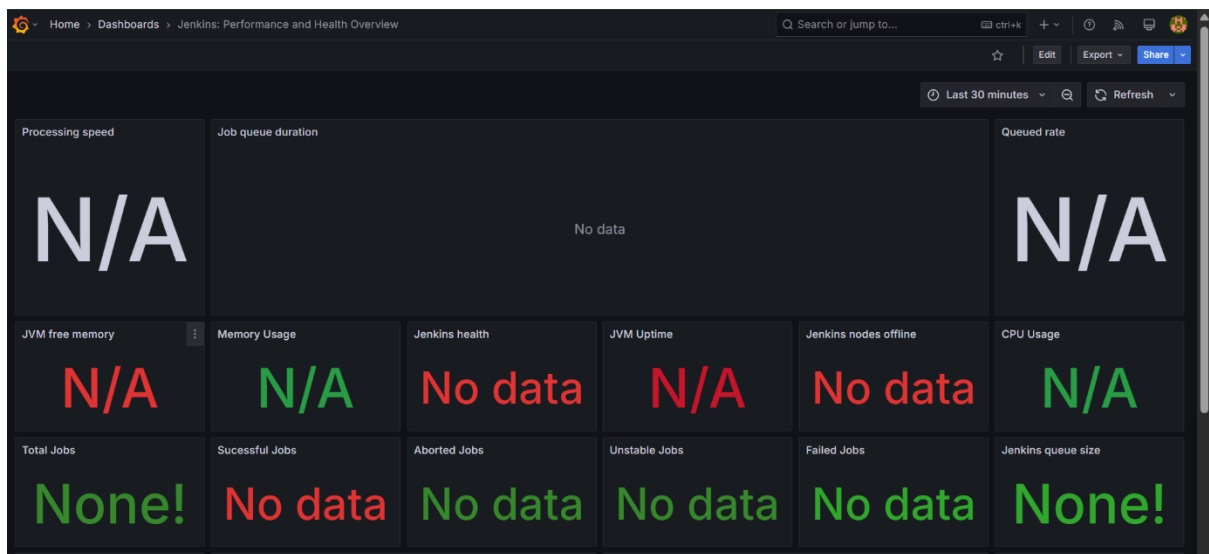
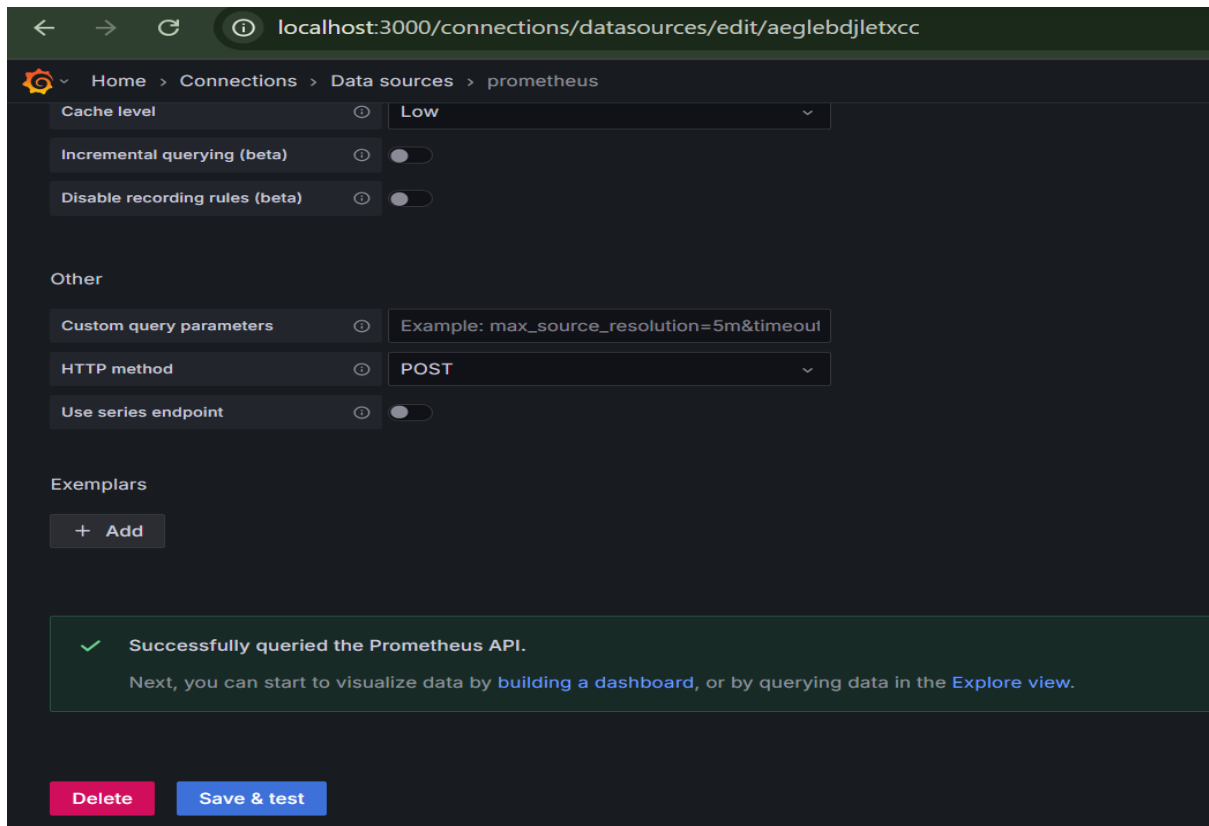
NODE EXPORTER

```
# HELP go_gc_duration_seconds A summary of the pause duration of garbage collection cycles.
# TYPE go_gc_duration_seconds summary
go_gc_duration_seconds{quantile="0"} 5.9879e-05
go_gc_duration_seconds{quantile="0.25"} 0.000146969
go_gc_duration_seconds{quantile="0.5"} 0.000187749
go_gc_duration_seconds{quantile="0.75"} 0.00035961
go_gc_duration_seconds{quantile="1"} 0.00135097
go_gc_duration_seconds_sum 0.009039947
go_gc_duration_seconds_count 31
# HELP go_goroutines Number of goroutines that currently exist.
# TYPE go_goroutines gauge
go_goroutines 36
# HELP go_info Information about the Go environment.
# TYPE go_info gauge
go_info{version="go1.21.1"} 1
# HELP go_memstats_alloc_bytes Number of bytes allocated and still in use.
# TYPE go_memstats_alloc_bytes gauge
go_memstats_alloc_bytes 2.5360568e+07
# HELP go_memstats_alloc_bytes_total Total number of bytes allocated, even if freed.
# TYPE go_memstats_alloc_bytes_total counter
go_memstats_alloc_bytes_total 1.84000352e+08
# HELP go_memstats_buck_hash_sys_bytes Number of bytes used by the profiling bucket hash table.
# TYPE go_memstats_buck_hash_sys_bytes gauge
go_memstats_buck_hash_sys_bytes 1.492327e+06
# HELP go_memstats_frees_total Total number of frees.
# TYPE go_memstats_frees_total counter
go_memstats_frees_total 1.302908e+06
# HELP go_memstats_gc_sys_bytes Number of bytes used for garbage collection system metadata.
# TYPE go_memstats_gc_sys_bytes gauge
go_memstats_gc_sys_bytes 4.830976e+06
# HELP go_memstats_heap_alloc_bytes Number of heap bytes allocated and still in use.
# TYPE go_memstats_heap_alloc_bytes gauge
go_memstats_heap_alloc_bytes 2.5360568e+07
# HELP go_memstats_heap_idle_bytes Number of heap bytes waiting to be used.
# TYPE go_memstats_heap_idle_bytes gauge
go_memstats_heap_idle_bytes 1.0903552e+07
# HELP go_memstats_heap_inuse_bytes Number of heap bytes that are in use.
# TYPE go_memstats_heap_inuse_bytes gauge
go_memstats_heap_inuse_bytes 2.9696e+07
# HELP go_memstats_heap_objects Number of allocated objects.
# TYPE go_memstats_heap_objects gauge
go_memstats_heap_objects 116081
# HELP go_memstats_heap_released_bytes Number of heap bytes released to OS.
# TYPE go_memstats_heap_released_bytes gauge
go_memstats_heap_released_bytes 4.292608e+06
# HELP go_memstats_heap_sys_bytes Number of heap bytes obtained from system.
# TYPE go_memstats_heap_sys_bytes gauge
go_memstats_heap_sys_bytes 4.0599552e+07
```

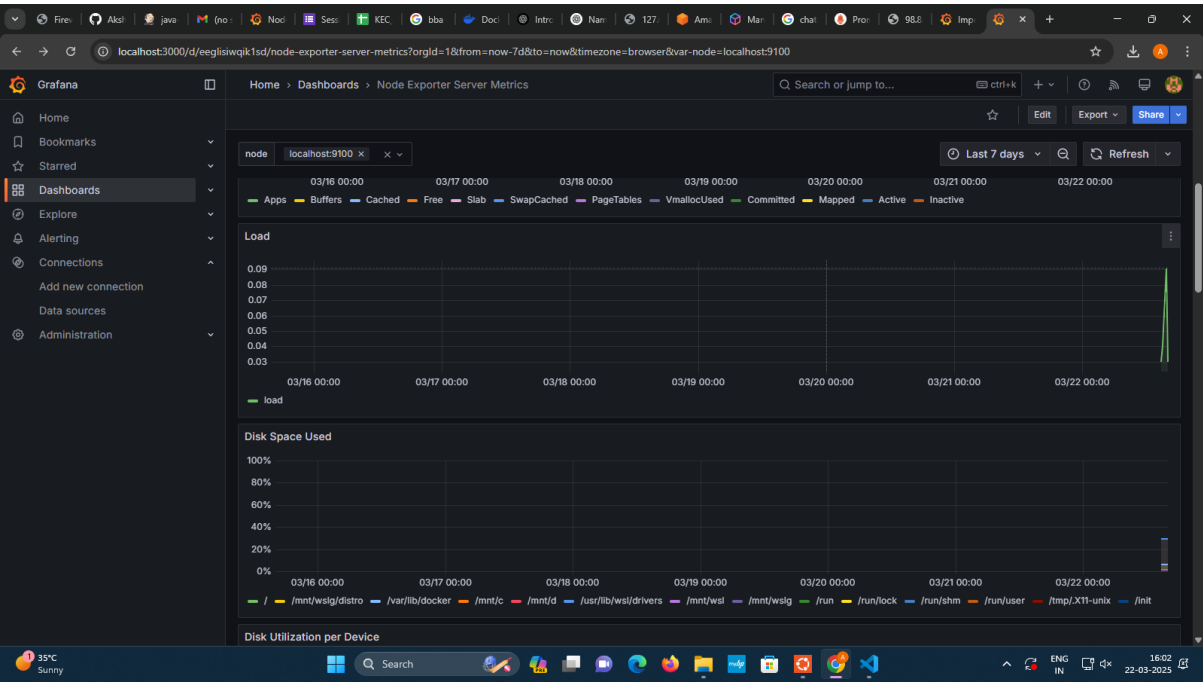
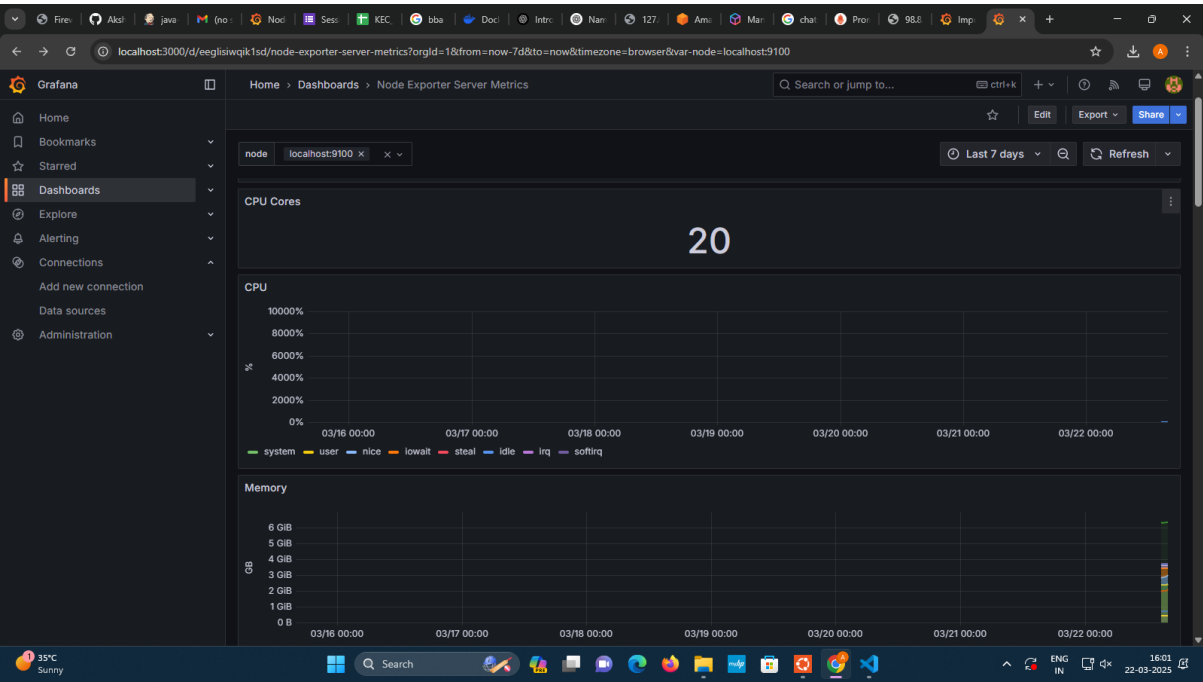


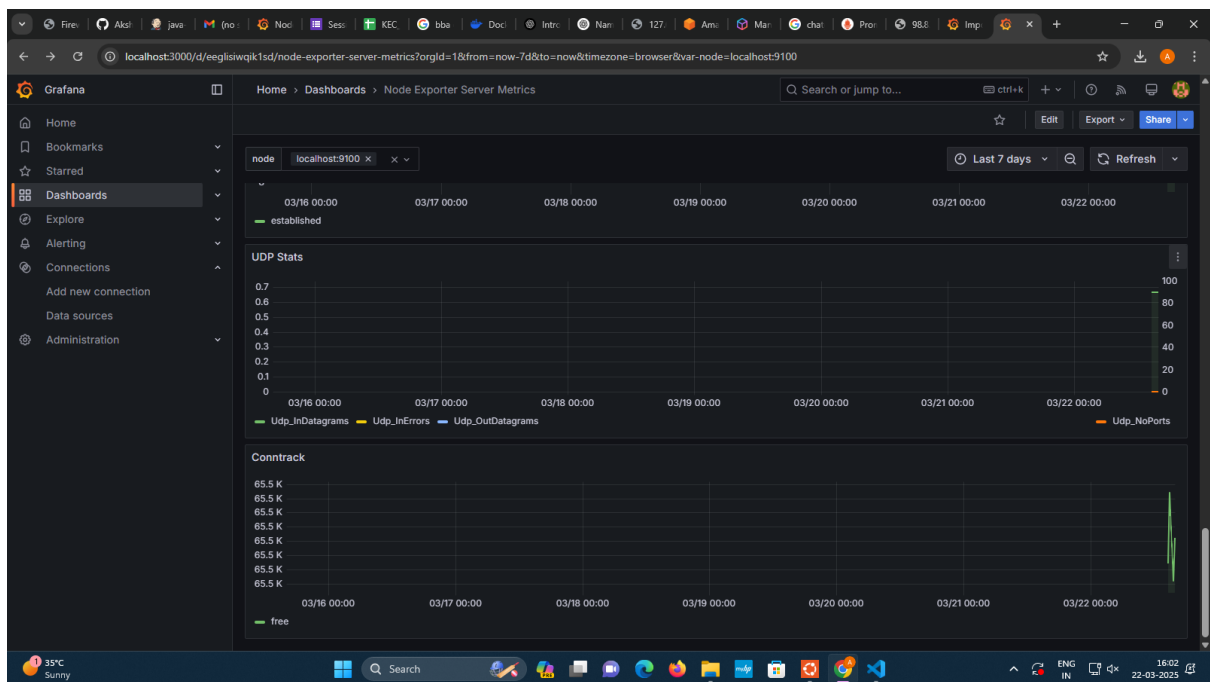
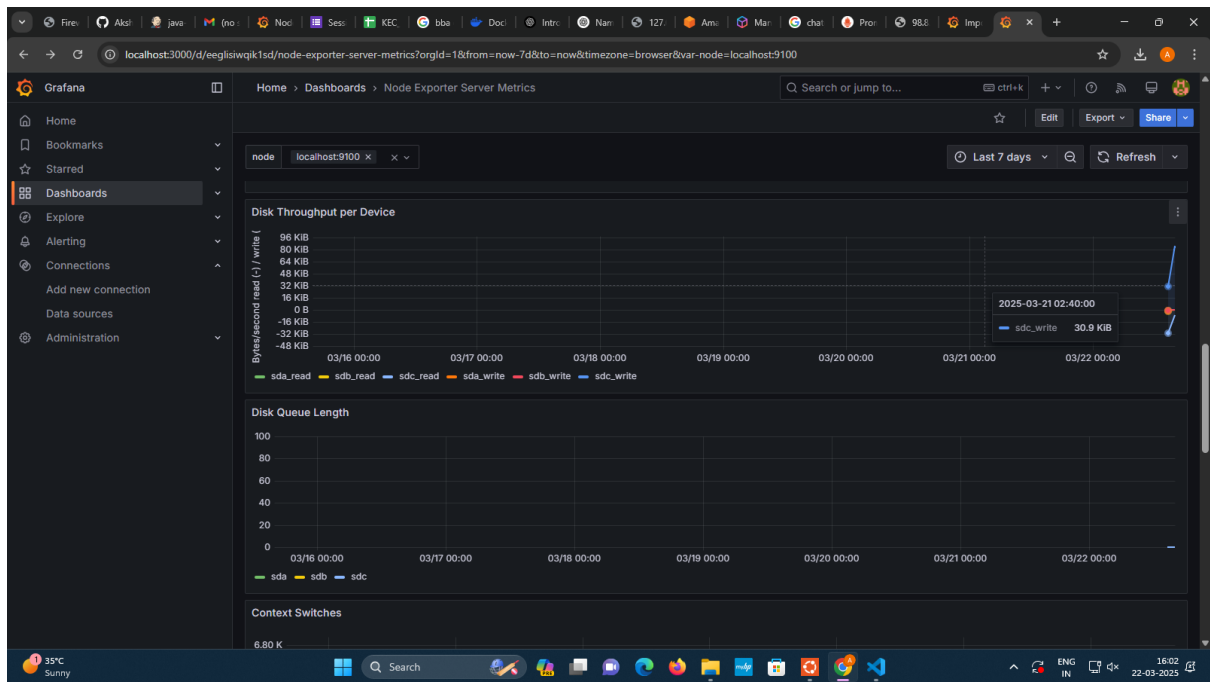
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